Amendment to Claims

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims

Claims 1-16 (Previously cancelled)

Claim 17 (Currently amended) A product design system operable on a digital computer for performing engineering design calculations and integrating technical and financial market data for determining product design parameters and product selection, said system including:

a first module operable to allow a user to enter parameters related to a project for said product, said first module being operable to enable identification, storage and retrieval of project data;

a second module operable to allow a user of said system to enter load calculation parameters relevant to said product;

a third module operable to allow said user to specify a range of materials to consider for said product;

a fourth module operable to allow a user of said system to specify commercial ~~limitation~~ parameters such as cost, material type, risk tolerance distribution, availability schedule, location, transportation costs and time, for determining objective function and overall product optimization;

a fifth module operable to allow a user to specify product design parameters and choose a design method, including different load probability distributions, custom distributions or equations, and Working Stress Design method ;

a sixth module operable to perform design calculation based on said design parameters and design methods;

a first interface operably connected to said sixth module and operable to provide information related to strength and materials data received from a strength and materials database of said system;

a second interface for comparing product design parameters with market data regarding existing products available in the marketplace; and

a decision module operable to enable said user to perform multiple iterations and to re-enter at least selected ones of said modules to select a product for procurement based on said design calculations and said market data.

Claim 18 (Previously presented) The system set forth in Claim 17 wherein:

said decision module includes means for listing all product designs that meet criteria established from performing design calculations.

Claim 19 (Previously presented) The system set forth in Claim 17 including an internal approval module for determining if said product is to be obtained from an existing marketplace.

Claim 20 (Previously presented) The system set forth in Claim 17 wherein:

said system is adapted for fluid pipeline design and procurement and said second module is operable to receive at least one of gas phase data, hydraulics design parameters and fluid phase parameters.

Claim 21 (Previously presented) The system set forth in Claim 20 wherein:

said third module is operable to receive parameters regarding materials for said pipeline.

Claim 22 (Previously presented) The system set forth in Claim 21 wherein:

said fifth and sixth modules are operable to perform calculations to determine pipe specifications.

Claim 23 (Previously presented) The system set forth in Claim 22 wherein:

said second interface is operable to compare said pipe specifications with pipe specifications available through said marketplace.

Claim 24 (Previously presented) The system set forth in Claim 23 wherein:

said decision module is operable to determine if an optimum pipe specification has been obtained and to provide for said user to access at least one of said first through sixth modules to evaluate alternate pipe specifications.

Claim 25 (Currently amended) A method for performing engineering design calculations and integrating technical and financial market data for determining product design parameters and product selection utilizing a system operable on a digital computer, said method comprising the steps of:

(a) entering project parameters related to said product into said system;

(b) entering load calculation parameters as probability distributions into said system, which load calculation parameters will be imposed on said product;

(c) specifying a range of materials and their property distributions from real time market data for consideration for use as materials for said product and entering said specified range of materials into said system;

(d) specifying commercial and product optimization parameters and entering said commercial and optimization parameters into said system;

(e) specifying product design parameters and entering said specified design parameters into said system;

(f) choosing a product design method and performing product design calculations, including risk-based design with said system using said product design method;

(g) comparing product design parameters and results determined from said design calculations ~~with product design parameters of existing products available in a marketplace~~ and establishing the sets of products in the market place whose design parameters resulted in the design for any specified optimization parameter; and

(h) selecting a product for procurement based on said product design calculations and said market data.

Claim 26 (Previously presented) The method set forth in Claim 25 including the step of:

performing multiple iterations by repeating at least selected ones of steps (b) through (f) to optimize product selection.

Claim 27 (Previously presented) The method set forth in Claim 25 including the step of:

obtaining approval of a selected product and proceeding to said marketplace for procurement of same.

Claim 28 (Previously presented) A process for designing a pipeline system according to the steps of Claim 25 based on design parameters selected from a group consisting of gas phase data, hydraulics design parameters, fluid phase parameters and available materials parameters.

Claim 29 (Previously presented) The method set forth in Claim 28 including the step of:

selecting a pipe specification based on said gas phase data, said hydraulics design parameters, said fluid phase parameters and said material parameters and a chosen design method.